



WALLACH21(INL2).ST25.txt
SEQUENCE LISTING

<110> WALLACH, David
MALININ, Nikolai
BOLDIN, Mark
KOVALENKO, Andrei
METT, Igor

<120> MODULATORS OF TNF RECEPTOR ASSOCIATED FACTOR (TRAF), THEIR PREPARATION AND USE

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<141> 1999-01-04

<150> PCT/IL97/00117
<151> 1997-04-01

<150> IL 117800
<151> 1996-04-02

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<170> PatentIn version 3.3

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Gly Arg Glu Lys Ser Asn Ser Ser Xaa Xaa Ser His Leu Ser Ser Trp
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<223> n is a, c, g, or t

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ggccatccgc gccgctcagg tggagcgcta tgtgcccga cacgagcgat gctgctggtg	240
cctgtgctgc ggctgtgagg tgcgggaaca cctgagccat gaaaacctga cggtgctgta	300
cgggggctg ctggagcatc tggccagccc agagcacaag aaagcaacca acaaattctg	360
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aagctggaaa gggatgaaca gccaagtgc ttccagctt cagcagccct caaatttgg	660
cctgccacca gctccagagc ttgactggat ggagacagga ccatctctga cattcattgg	720
ccatcaggat ataccaggag ttggtaacat ccactcaggt gccacacccct cctggatgat	780
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taaagaaaag gaaaaacaga agttaaaaa actccccca gaccgagttt gggccaactt	900
tgatcacagc tccaggacca gtgcaggctg gtcgcctct ttggccgc gtctggaata	960
atggacgccc ctggcagtcc agacatcaac tccaaaactg aagctgcagc aatgaagaag	1020
cagtcacata cagaaaaaaag ctaatcatgc tctctaccaa ctaccatgag gctaaaagcc	1080
aaagtcaacc aaacccctat tataccttcc acccaaattt tttatcattt tctttcttag	1140
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cgaatcaagc ttatcgatac cgtcgaccc tcgatccact ttt	1253

<210> 5
<211> 417
<212> PRT
<213> Homo sapiens

<220>

WALLACH21(INL2).ST25.txt

<221> misc_feature
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<223> Xaa can be any naturally occurring amino acid

<220>
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<222> (320)..(320)
<223> Xaa can be any naturally occurring amino acid

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<222> (338)..(338)
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<220>
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<223> Xaa can be any naturally occurring amino acid

<220>
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<222> (358)..(358)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> misc_feature
<222> (388)..(388)
<223> Xaa can be any naturally occurring amino acid

<400> 5

Ile Gly Val Thr Arg Trp Arg Arg Ser Arg Ile Val Asp Pro Arg Ala
1 5 10 15

Ala Xaa Asn Ser Ile Arg Ala His Glu Gly Pro Phe Phe Cys Gly Arg
20 25 30

Gly Thr Phe Thr Ala Ala Ser Thr Gln Arg Gln Leu Lys Glu Ala Phe
35 40 45

Glu Arg Leu Leu Pro Gln Val Glu Ala Ala Arg Lys Ala Ile Arg Ala
50 55 60

Ala Gln Val Glu Arg Tyr Val Pro Glu His Glu Arg Cys Cys Trp Cys
65 70 75 80

Leu Cys Cys Gly Cys Glu Val Arg Glu His Leu Ser His Gly Asn Leu
85 90 95

Thr Val Leu Tyr Gly Gly Leu Leu Glu His Leu Ala Ser Pro Glu His
100 105 110

Lys Lys Ala Thr Asn Lys Phe Trp Trp Glu Asn Lys Ala Glu Val Gln
115 120 125

Met Lys Glu Lys Phe Leu Val Thr Pro Gln Asp Tyr Ala Arg Phe Lys
130 135 140

Lys Ser Met Val Lys Gly Leu Asp Ser Tyr Glu Glu Lys Glu Asp Lys
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WALLACH21(INL2).ST25.txt

145	150	155	160
Val Ile Lys Glu Met Ala Ala Gln Ile Arg Glu Val Glu Gln Ser Arg	165	170	175
Gln Glu Val Val Arg Ser Val Leu Glu Pro Gln Ala Val Pro Asp Pro	180	185	190
Glu Glu Gly Ser Ser Ala Pro Arg Ser Trp Lys Gly Met Asn Ser Gln	195	200	205
Val Ala Ser Ser Leu Gln Gln Pro Ser Asn Leu Asp Leu Pro Pro Ala	210	215	220
Pro Glu Leu Asp Trp Met Glu Thr Gly Pro Ser Leu Thr Phe Ile Gly	225	230	235
His Gln Asp Ile Pro Gly Val Gly Asn Ile His Ser Gly Ala Thr Pro	245	250	255
Pro Trp Met Ile Gln Asp Glu Glu Tyr Ile Ala Gly Asn Gln Glu Ile	260	265	270
Gly Pro Ser Tyr Glu Glu Phe Leu Lys Glu Lys Glu Lys Gln Lys Leu	275	280	285
Lys Lys Leu Pro Pro Asp Arg Val Gly Ala Asn Phe Asp His Ser Ser	290	295	300
Arg Thr Ser Ala Gly Trp Leu Pro Ser Phe Gly Pro Arg Leu Glu Xaa	305	310	315
Trp Thr Pro Leu Ala Val Gln Thr Ser Thr Pro Lys Leu Lys Leu Gln	325	330	335
Gln Xaa Arg Ser Ser His Ile Gln Lys Lys Ala Asn His Ala Leu Tyr	340	345	350
Gln Leu Pro Xaa Gly Xaa Lys Pro Lys Ser Thr Lys Pro Leu Leu Tyr	355	360	365
Leu Pro Pro Lys Phe Phe Ile Ile Val Phe Leu Arg Lys Gln Thr Tyr	370	375	380
Ser Phe Ile Xaa Phe Asn Lys Val Leu Phe Phe Gly Leu Arg Gly Leu	385	390	395
Glu Ser Ser Leu Ser Ile Pro Ser Thr Ser Arg Gly Gly Arg Thr His	405	410	415

Phe

WALLACH21(INL2).ST25.txt

<210> 6
<211> 4596
<212> DNA
<213> Homo sapiens

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aagccaaagg agaagacgcc gccactgggg aagaaacaga gctccgtcta caagcttgag 360
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aaggcacag ccaaggaagg ctccgaggca gggccagctg ccatctctat catccccag 480
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aagaaacgga agaagaagag ctcaaagtcc ctggctcatg caggagtggc cttggccaaa 720
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WALLACH21(INL2).ST25.txt

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WALLACH21(INL2).ST25.txt

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<211> 947
<212> PRT
<213> Homo sapiens

<400> 7

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Gly Gln Gln Lys Glu Leu Pro Lys Pro Lys Glu Lys Thr Pro Pro Leu
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Gly Lys Lys Gln Ser Ser Val Tyr Lys Leu Glu Ala Val Glu Lys Ser
35 40 45

Pro Val Phe Cys Gly Lys Trp Glu Ile Leu Asn Asp Val Ile Thr Lys
50 55 60

Gly Thr Ala Lys Glu Gly Ser Glu Ala Gly Pro Ala Ala Ile Ser Ile
65 70 75 80

Ile Ala Gln Ala Glu Cys Glu Asn Ser Gln Glu Phe Ser Pro Thr Phe
85 90 95

Ser Glu Arg Ile Phe Ile Ala Gly Ser Lys Gln Tyr Ser Gln Ser Glu
100 105 110

Ser Leu Asp Gln Ile Pro Asn Asn Val Ala His Ala Thr Glu Gly Lys
115 120 125

Met Ala Arg Val Cys Trp Lys Gly Lys Arg Arg Ser Lys Ala Arg Lys
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WALLACH21(INL2).ST25.txt

130	135	140
Lys	Arg Lys Lys Ser Ser	Lys Ser Leu Ala His Ala Gly Val Ala
145	150	155 160
Leu Ala Lys Pro	Leu Pro Arg Thr Pro	Glu Gln Glu Ser Cys Thr Ile
	165	170 175
Pro Val Gln Glu Asp Glu Ser Pro	Leu Gly Ala Pro Tyr Val Arg Asn	
180	185	190
Thr Pro Gln Phe Thr Lys Pro	Leu Lys Glu Pro Gly Leu Gly Gln Leu	
195	200	205
Cys Phe Lys Gln Leu Gly Glu Gly Leu Arg Pro Ala	Leu Pro Arg Ser	
210	215	220
Glu Leu His Lys Leu Ile Ser Pro	Leu Gln Cys Leu Asn His Val Trp	
225	230	235 240
Lys Leu His His Pro Gln Asp Gly Gly Pro	Leu Pro Leu Pro Thr His	
245	250	255
Pro Phe Pro Tyr Ser Arg Leu Pro His	Pro Phe Pro Phe His Pro Leu	
260	265	270
Gln Pro Trp Lys Pro His Pro	Leu Glu Ser Phe Leu Gly Lys Leu Ala	
275	280	285
Cys Val Asp Ser Gln Lys Pro	Leu Pro Asp Pro His Leu Ser Lys Leu	
290	295	300
Ala Cys Val Asp Ser Pro	Lys Pro Leu Pro Gly Pro His Leu Glu Pro	
305	310	315 320
Ser Cys Leu Ser Arg Gly Ala His Glu	Lys Phe Ser Val Glu Glu Tyr	
325	330	335
Leu Val His Ala Leu Gln Gly Ser Val	Ser Ser Ser Gln Ala His Ser	
340	345	350
Leu Thr Ser Leu Ala Lys Thr Trp	Ala Ala Arg Gly Ser Arg Ser Arg	
355	360	365
Glu Pro Ser Pro Lys Thr Glu Asp Asn Glu Gly Val	Leu Leu Thr Glu	
370	375	380
Lys Leu Lys Pro Val Asp Tyr Glu Tyr Arg Glu	Glu Val His Trp Ala	
385	390	395 400
Thr His Gln Leu Arg Leu Gly Arg Gly Ser Phe	Gly Glu Val His Arg	

WALLACH21(INL2).ST25.txt

405

410

415

Met Glu Asp Lys Gln Thr Gly Phe Gln Cys Ala Val Lys Lys Val Arg
 420 425 430

Leu Glu Val Phe Arg Ala Glu Glu Leu Met Ala Cys Ala Gly Leu Thr
 435 440 445

Ser Pro Arg Ile Val Pro Leu Tyr Gly Ala Val Arg Glu Gly Pro Trp
 450 455 460

Val Asn Ile Phe Met Glu Leu Leu Glu Gly Gly Ser Leu Gly Gln Leu
 465 470 475 480

Val Lys Glu Gln Gly Cys Leu Pro Glu Asp Arg Ala Leu Tyr Tyr Leu
 485 490 495

Gly Gln Ala Leu Glu Gly Leu Glu Tyr Leu His Ser Arg Arg Ile Leu
 500 505 510

His Gly Asp Val Lys Ala Asp Asn Val Leu Leu Ser Ser Asp Gly Ser
 515 520 525

His Ala Ala Leu Cys Asp Phe Gly His Ala Val Cys Leu Gln Pro Asp
 530 535 540

Gly Leu Gly Lys Ser Leu Leu Thr Gly Asp Tyr Ile Pro Gly Thr Glu
 545 550 555 560

Thr His Met Ala Pro Glu Val Val Leu Gly Arg Ser Cys Asp Ala Lys
 565 570 575

Val Asp Val Trp Ser Ser Cys Cys Met Met Leu His Met Leu Asn Gly
 580 585 590

Cys His Pro Trp Thr Gln Phe Phe Arg Gly Pro Leu Cys Leu Lys Ile
 595 600 605

Ala Ser Glu Pro Pro Pro Val Arg Glu Ile Pro Pro Ser Cys Ala Pro
 610 615 620

Leu Thr Ala Gln Ala Ile Gln Glu Gly Leu Arg Lys Glu Pro Ile His
 625 630 635 640

Arg Val Ser Ala Ala Glu Leu Gly Gly Lys Val Asn Arg Ala Leu Gln
 645 650 655

Gln Val Gly Gly Leu Lys Ser Pro Trp Arg Gly Glu Tyr Lys Glu Pro
 660 665 670

Arg His Pro Pro Pro Asn Gln Ala Asn Tyr His Gln Thr Leu His Ala
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WALLACH21(INL2).ST25.txt
675 680 685

Gln Pro Arg Glu Leu Ser Pro Arg Ala Pro Gly Pro Arg Pro Ala Glu
690 695 700

Glu Thr Thr Gly Arg Ala Pro Lys Leu Gln Pro Pro Leu Pro Pro Glu
705 710 715 720

Pro Pro Glu Pro Asn Lys Ser Pro Pro Leu Thr Leu Ser Lys Glu Glu
725 730 735

Ser Gly Met Trp Glu Pro Leu Pro Leu Ser Ser Leu Glu Pro Ala Pro
740 745 750

Ala Arg Asn Pro Ser Ser Pro Glu Arg Lys Ala Thr Val Pro Glu Gln
755 760 765

Glu Leu Gln Gln Leu Glu Ile Glu Leu Phe Leu Asn Ser Leu Ser Gln
770 775 780

Pro Phe Ser Leu Glu Glu Gln Glu Gln Ile Leu Ser Cys Leu Ser Ile
785 790 795 800

Asp Ser Leu Ser Leu Ser Asp Asp Ser Glu Lys Asn Pro Ser Lys Ala
805 810 815

Ser Gln Ser Ser Arg Asp Thr Leu Ser Ser Gly Val His Ser Trp Ser
820 825 830

Ser Gln Ala Glu Ala Arg Ser Ser Ser Trp Asn Met Val Leu Ala Arg
835 840 845

Gly Arg Pro Thr Asp Thr Pro Ser Tyr Phe Asn Gly Val Lys Val Gln
850 855 860 865

Ile Gln Ser Leu Asn Gly Glu His Leu His Ile Arg Glu Phe His Arg
865 870 875 880

Val Lys Val Gly Asp Ile Ala Thr Gly Ile Ser Ser Gln Ile Pro Ala
885 890 895

Ala Ala Phe Ser Leu Val Thr Lys Asp Gly Gln Pro Val Arg Tyr Asp
900 905 910

Met Glu Val Pro Asp Ser Gly Ile Asp Leu Gln Cys Thr Leu Ala Pro
915 920 925

Asp Gly Ser Phe Ala Trp Ser Trp Arg Val Lys His Gly Gln Leu Glu
930 935 940

Asn Arg Pro

WALLACH21(INL2).ST25.txt

945

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<212> DNA
<213> Artificial

<220>
<223> oligonucleotide PCR primer

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<210> 9
<211> 32
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide PCR primer

<400> 9
ggtcgactta gagccctgtc aggtccacaa tg 32

<210> 10
<211> 24
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide probe

<400> 10
gatgccattg gggatttccct cttt 24

<210> 11
<211> 24
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide probe

<400> 11
cagtaaagag gaaatccccca atgg 24

<210> 12
<211> 467
<212> PRT
<213> Homo sapiens

<400> 12

Met Glu Tyr Met Ser Thr Gly Ser Asp Glu Lys Glu Glu Ile Asp Leu
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Leu Ile Asn His Leu Asn Val Ser Glu Val Leu Asp Ile Met Glu Asn
20 25 30

Leu Tyr Ala Ser Glu Glu Pro Ala Val Tyr Glu Pro Ser Leu Met Thr
35 40 45

WALLACH21(INL2).ST25.txt

Met Cys Pro Asp Ser Asn Gln Asn Lys Glu His Ser Glu Ser Leu Leu
50 55 60

Arg Ser Gly Gln Glu Val Pro Trp Leu Ser Ser Val Arg Tyr Gly Thr
65 70 75 80

Val Glu Asp Leu Leu Ala Phe Ala Asn His Ile Ser Asn Thr Thr Lys
85 90 95

His Phe Tyr Arg Cys Arg Pro Gln Glu Ser Gly Ile Leu Leu Asn Met
100 105 110

Val Ile Ser Pro Gln Asn Gly Arg Tyr Gln Ile Asp Ser Asp Val Leu
115 120 125

Leu Val Pro Trp Lys Leu Thr Tyr Arg Ser Ile Gly Ser Gly Phe Val
130 135 140

Pro Arg Gly Ala Phe Gly Lys Val Tyr Leu Ala Gln Asp Met Lys Thr
145 150 155 160

Lys Lys Arg Met Ala Cys Lys Leu Ile Pro Val Asp Gln Phe Lys Pro
165 170 175

Ser Asp Val Glu Ile Gln Ala Cys Phe Arg His Glu Asn Ile Ala Glu
180 185 190

Leu Tyr Gly Ala Val Leu Trp Gly Asp Thr Val His Leu Phe Met Glu
195 200 205

Ala Gly Glu Gly Ser Val Leu Glu Lys Leu Glu Ser Cys Gly Pro
210 215 220

Met Arg Glu Phe Glu Ile Ile Trp Val Thr Lys His Val Leu Lys Gly
225 230 235 240

Leu Asp Phe Leu His Ser Lys Lys Val Ile His His Asp Ile Lys Pro
245 250 255

Ser Asn Ile Val Phe Met Ser Thr Lys Ala Val Leu Val Asp Phe Gly
260 265 270

Leu Ser Val Gln Met Thr Glu Asp Val Tyr Leu Pro Lys Asp Leu Arg
275 280 285

Gly Thr Glu Ile Tyr Met Ser Pro Glu Val Ile Leu Cys Arg Gly His
290 295 300

Ser Thr Lys Ala Asp Ile Tyr Ser Leu Gly Ala Thr Leu Ile His Met
305 310 315 320

WALLACH21(INL2).ST25.txt

Gln Thr Gly Thr Pro Pro Trp Val Lys Arg Tyr Pro Arg Ser Ala Tyr
325 330 335

Pro Ser Tyr Leu Tyr Ile Ile His Lys Gln Ala Pro Pro Leu Glu Asp
340 345 350

Ile Ala Gly Asp Cys Ser Pro Gly Met Arg Glu Leu Ile Glu Ala Ala
355 360 365

Leu Glu Arg Asn Pro Asn His Arg Pro Lys Ala Ala Asp Leu Leu Lys
370 375 380

His Glu Ala Leu Asn Pro Pro Arg Glu Asp Gln Pro Arg Cys Gln Ser
385 390 395 400

Leu Asp Ser Ala Leu Phe Asp Arg Lys Arg Leu Leu Ser Arg Lys Glu
405 410 415

Leu Glu Leu Pro Glu Asn Ile Ala Asp Ser Ser Cys Thr Gly Ser Thr
420 425 430

Glu Glu Ser Glu Val Leu Arg Arg Gln Arg Ser Leu Tyr Ile Asp Leu
435 440 445

Gly Ala Leu Ala Gly Tyr Phe Asn Ile Val Arg Gly Pro Pro Thr Leu
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Glu Tyr Gly
465

<210> 13
<211> 467
<212> PRT
<213> Homo sapiens

<400> 13

Met Glu Tyr Met Ser Thr Gly Ser Asp Asn Lys Glu Glu Ile Asp Leu
1 5 10 15

Leu Ile Lys His Leu Asn Val Ser Asp Val Ile Asp Ile Met Glu Asn
20 25 30

Leu Tyr Ala Ser Glu Glu Pro Ala Val Tyr Glu Pro Ser Leu Met Thr
35 40 45

Met Cys Gln Asp Ser Asn Gln Asn Asp Glu Arg Ser Lys Ser Leu Leu
50 55 60

Leu Ser Gly Gln Glu Val Pro Trp Leu Ser Ser Val Arg Tyr Gly Thr
65 70 75 80

WALLACH21(INL2).ST25.txt

Val Glu Asp Leu Leu Ala Phe Ala Asn His Ile Ser Asn Thr Ala Lys
85 90 95

His Phe Tyr Gly Gln Arg Pro Gln Glu Ser Gly Ile Leu Leu Asn Met
100 105 110

Val Ile Thr Pro Gln Asn Gly Arg Tyr Gln Ile Asp Ser Asp Val Leu
115 120 125

Leu Ile Pro Trp Lys Leu Thr Tyr Arg Asn Ile Gly Ser Asp Phe Ile
130 135 140

Pro Arg Gly Ala Phe Gly Lys Val Tyr Leu Ala Gln Asp Ile Lys Thr
145 150 155 160

Lys Lys Arg Met Ala Cys Lys Leu Ile Pro Val Asp Gln Phe Lys Pro
165 170 175

Ser Asp Val Glu Ile Gln Ala Cys Phe Arg His Glu Asn Ile Ala Glu
180 185 190

Leu Tyr Gly Ala Val Leu Trp Gly Glu Thr Val His Leu Phe Met Glu
195 200 205

Ala Gly Glu Gly Ser Val Leu Glu Lys Leu Glu Ser Cys Gly Pro
210 215 220

Met Arg Glu Phe Glu Ile Ile Trp Val Thr Lys His Val Leu Lys Gly
225 230 235 240

Leu Asp Phe Leu His Ser Lys Lys Val Ile His His Asp Ile Lys Pro
245 250 255

Ser Asn Ile Val Phe Met Ser Thr Lys Ala Val Leu Val Asp Phe Gly
260 265 270

Leu Ser Val Gln Met Thr Glu Asp Val Tyr Pro Phe Lys Asp Leu Arg
275 280 285

Gly Thr Glu Ile Tyr Met Ser Pro Glu Val Ile Leu Cys Arg Gly His
290 295 300

Ser Thr Lys Ala Asp Ile Tyr Ser Leu Gly Ala Thr Leu Ile His Met
305 310 315 320

Gln Thr Gly Thr Pro Pro Trp Val Lys Arg Tyr Pro Arg Ser Ala Tyr
325 330 335

Pro Ser Tyr Leu Tyr Ile Ile His Lys Gln Ala Pro Pro Leu Glu Asp
340 345 350

WALLACH21(INL2).ST25.txt

Ile Ala Asp Asp Cys Ser Pro Gly Met Arg Glu Leu Ile Glu Ala Ser
355 360 365

Leu Glu Arg Asn Pro Asn His Arg Pro Arg Ala Ala Asp Leu Leu Lys
370 375 380

His Glu Ala Leu Asn Pro Pro Arg Glu Asp Gln Pro Arg Cys Gln Ser
385 390 395 400

Leu Asp Ser Ala Leu Leu Glu Arg Lys Arg Leu Leu Ser Arg Lys Glu
405 410 415

Leu Glu Leu Pro Glu Asn Ile Ala Asp Ser Ser Cys Thr Gly Ser Thr
420 425 430

Glu Glu Ser Glu Met Leu Lys Arg Gln Arg Ser Leu Tyr Ile Asp Leu
435 440 445

Gly Ala Leu Ala Gly Tyr Phe Asn Leu Val Arg Gly Pro Pro Thr Leu
450 455 460

Glu Tyr Gly
465

<210> 14
<211> 947
<212> PRT
<213> Homo sapiens

<400> 14

Met Ala Val Met Glu Met Ala Cys Pro Gly Ala Pro Gly Ser Ala Val
1 5 10 15

Gly Gln Gln Lys Glu Leu Pro Lys Pro Lys Glu Lys Thr Pro Pro Leu
20 25 30

Gly Lys Lys Gln Ser Ser Val Tyr Lys Leu Glu Ala Val Glu Lys Ser
35 40 45

Pro Val Phe Cys Gly Lys Trp Glu Ile Leu Asn Asp Val Ile Thr Lys
50 55 60

Gly Thr Ala Lys Glu Gly Ser Glu Ala Gly Pro Ala Ala Ile Ser Ile
65 70 75 80

Ile Ala Gln Ala Glu Cys Glu Asn Ser Gln Glu Phe Ser Pro Thr Phe
85 90 95

Ser Glu Arg Ile Phe Ile Ala Gly Ser Lys Gln Tyr Ser Gln Ser Glu
100 105 110

WALLACH21(INL2).ST25.txt

Ser Leu Asp Gln Ile Pro Asn Asn Val Ala His Ala Thr Glu Gly Lys
 115 120 125

Met Ala Arg Val Cys Trp Lys Gly Lys Arg Arg Ser Lys Ala Arg Lys
 130 135 140

Lys Arg Lys Lys Ser Ser Lys Ser Leu Ala His Ala Gly Val Ala
 145 150 155 160

Leu Ala Lys Pro Leu Pro Arg Thr Pro Glu Gln Glu Ser Cys Thr Ile
 165 170 175

Pro Val Gln Glu Asp Glu Ser Pro Leu Gly Ala Pro Tyr Val Arg Asn
 180 185 190

Thr Pro Gln Phe Thr Lys Pro Leu Lys Glu Pro Gly Leu Gly Gln Leu
 195 200 205

Cys Phe Lys Gln Leu Gly Glu Gly Leu Arg Pro Ala Leu Pro Arg Ser
 210 215 220

Glu Leu His Lys Leu Ile Ser Pro Leu Gln Cys Leu Asn His Val Trp
 225 230 235 240

Lys Leu His His Pro Gln Asp Gly Gly Pro Leu Pro Leu Pro Thr His
 245 250 255

Pro Phe Pro Tyr Ser Arg Leu Pro His Pro Phe Pro Phe His Pro Leu
 260 265 270

Gln Pro Trp Lys Pro His Pro Leu Glu Ser Phe Leu Gly Lys Leu Ala
 275 280 285

Cys Val Asp Ser Gln Lys Pro Leu Pro Asp Pro His Leu Ser Lys Leu
 290 295 300

Ala Cys Val Asp Ser Pro Lys Pro Leu Pro Gly Pro His Leu Glu Pro
 305 310 315 320

Ser Cys Leu Ser Arg Gly Ala His Glu Lys Phe Ser Val Glu Glu Tyr
 325 330 335

Leu Val His Ala Leu Gln Gly Ser Val Ser Ser Ser Gln Ala His Ser
 340 345 350

Leu Thr Ser Leu Ala Lys Thr Trp Ala Ala Arg Gly Ser Arg Ser Arg
 355 360 365

Glu Pro Ser Pro Lys Thr Glu Asp Asn Glu Gly Val Leu Leu Thr Glu
 370 375 380

WALLACH21(INL2).ST25.txt

Lys Leu Lys Pro Val Asp Tyr Glu Tyr Arg Glu Glu Val His Trp Ala
385 390 395 400

Thr His Gln Leu Arg Leu Gly Arg Gly Ser Phe Gly Glu Val His Arg
405 410 415

Met Glu Asp Lys Gln Thr Gly Phe Gln Cys Ala Val Lys Lys Val Arg
420 425 430

Leu Glu Val Phe Arg Ala Glu Glu Leu Met Ala Cys Ala Gly Leu Thr
435 440 445

Ser Pro Arg Ile Val Pro Leu Tyr Gly Ala Val Arg Glu Gly Pro Trp
450 455 460

Val Asn Ile Phe Met Glu Leu Leu Glu Gly Gly Ser Leu Gly Gln Leu
465 470 475 480

Val Lys Glu Gln Gly Cys Leu Pro Glu Asp Arg Ala Leu Tyr Tyr Leu
485 490 495

Gly Gln Ala Leu Glu Gly Leu Glu Tyr Leu His Ser Arg Arg Ile Leu
500 505 510

His Gly Asp Val Lys Ala Asp Asn Val Leu Leu Ser Ser Asp Gly Ser
515 520 525

His Ala Ala Leu Cys Asp Phe Gly His Ala Val Cys Leu Gln Pro Asp
530 535 540

Gly Leu Gly Lys Ser Leu Leu Thr Gly Asp Tyr Ile Pro Gly Thr Glu
545 550 555 560

Thr His Met Ala Pro Glu Val Val Leu Gly Arg Ser Cys Asp Ala Lys
565 570 575

Val Asp Val Trp Ser Ser Cys Cys Met Met Leu His Met Leu Asn Gly
580 585 590

Cys His Pro Trp Thr Gln Phe Phe Arg Gly Pro Leu Cys Leu Lys Ile
595 600 605

Ala Ser Glu Pro Pro Pro Val Arg Glu Ile Pro Pro Ser Cys Ala Pro
610 615 620

Leu Thr Ala Gln Ala Ile Gln Glu Gly Leu Arg Lys Glu Pro Ile His
625 630 635 640

Arg Val Ser Ala Ala Glu Leu Gly Gly Lys Val Asn Arg Ala Leu Gln
645 650 655

WALLACH21(INL2).ST25.txt

Gln Val Gly Gly Leu Lys Ser Pro Trp Arg Gly Glu Tyr Lys Glu Pro
 660 665 670

Arg His Pro Pro Pro Asn Gln Ala Asn Tyr His Gln Thr Leu His Ala
 675 680 685

Gln Pro Arg Glu Leu Ser Pro Arg Ala Pro Gly Pro Arg Pro Ala Glu
 690 695 700

Glu Thr Thr Gly Arg Ala Pro Lys Leu Gln Pro Pro Leu Pro Pro Glu
 705 710 715 720

Pro Pro Glu Pro Asn Lys Ser Pro Pro Leu Thr Leu Ser Lys Glu Glu
 725 730 735

Ser Gly Met Trp Glu Pro Leu Pro Leu Ser Ser Leu Glu Pro Ala Pro
 740 745 750

Ala Arg Asn Pro Ser Ser Pro Glu Arg Lys Ala Thr Val Pro Glu Gln
 755 760 765

Glu Leu Gln Gln Leu Glu Ile Glu Leu Phe Leu Asn Ser Leu Ser Gln
 770 775 780

Pro Phe Ser Leu Glu Glu Gln Glu Gln Ile Leu Ser Cys Leu Ser Ile
 785 790 795 800

Asp Ser Leu Ser Leu Ser Asp Asp Ser Glu Lys Asn Pro Ser Lys Ala
 805 810 815

Ser Gln Ser Ser Arg Asp Thr Leu Ser Ser Gly Val His Ser Trp Ser
 820 825 830

Ser Gln Ala Glu Ala Arg Ser Ser Ser Trp Asn Met Val Leu Ala Arg
 835 840 845

Gly Arg Pro Thr Asp Thr Pro Ser Tyr Phe Asn Gly Val Lys Val Gln
 850 855 860

Ile Gln Ser Leu Asn Gly Glu His Leu His Ile Arg Glu Phe His Arg
 865 870 875 880

Val Lys Val Gly Asp Ile Ala Thr Gly Ile Ser Ser Gln Ile Pro Ala
 885 890 895

Ala Ala Phe Ser Leu Val Thr Lys Asp Gly Gln Pro Val Arg Tyr Asp
 900 905 910

Met Glu Val Pro Asp Ser Gly Ile Asp Leu Gln Cys Thr Leu Ala Pro
 915 920 925

WALLACH21(INL2).ST25.txt

Asp Gly Ser Phe Ala Trp Ser Trp Arg Val Lys His Gly Gln Leu Glu
 930 935 940

Asn Arg Pro
 945

<210> 15
 <211> 688
 <212> PRT
 <213> Homo sapiens

<400> 15

Thr Leu Thr His Thr Thr Ser Leu Phe Ala Pro Pro Asn Leu Ser Pro
 1 5 10 15

Met Gln Asp Phe Ile Gly Ser Val Arg Arg Ser Leu Val Phe Lys Gln
 20 25 30

Ser Gly Asp Phe Asp Thr Gly Ala Ala Gly Val Gly Ser Gly Phe Gly
 35 40 45

Gly Phe Val Glu Lys Leu Gly Ser Ser Ile Arg Lys Ser Ser Ile Gly
 50 55 60

Ile Phe Ser Lys Ala His Val Pro Ala Leu Pro Ser Ile Ser Lys Ala
 65 70 75 80

Glu Leu Pro Ala Lys Ala Arg Lys Asp Asp Thr Pro Pro Ile Arg Trp
 85 90 95

Arg Lys Gly Glu Met Ile Gly Cys Gly Ala Phe Gly Arg Val Tyr Met
 100 105 110

Gly Met Asn Val Asp Ser Gly Glu Leu Leu Ala Ile Lys Glu Val Ser
 115 120 125

Ile Ala Met Asn Gly Ala Ser Arg Glu Arg Ala Gln Ala His Val Arg
 130 135 140

Glu Leu Glu Glu Glu Val Asn Leu Leu Lys Asn Leu Ser His Pro Asn
 145 150 155 160

Ile Val Arg Tyr Leu Gly Thr Ala Arg Glu Ala Gly Ser Leu Asn Ile
 165 170 175

Leu Leu Glu Phe Val Pro Gly Gly Ser Ile Ser Ser Leu Leu Gly Lys
 180 185 190

Phe Gly Ser Phe Pro Glu Ser Val Ile Arg Met Tyr Thr Lys Gln Leu
 195 200 205

Leu Leu Gly Leu Glu Tyr Leu His Lys Asn Gly Ile Met His Arg Asp
 Page 30

WALLACH21(INL2).ST25.txt

210

215

220

Ile Lys Gly Ala Asn Ile Leu Val Asp Asn Lys Gly Cys Ile Lys Leu
 225 230 235 240

Ala Asp Phe Gly Ala Ser Lys Lys Val Val Glu Leu Ala Thr Met Thr
 245 250 255

Gly Ala Lys Ser Met Lys Gly Thr Pro Tyr Trp Met Ala Pro Glu Val
 260 265 270

Ile Leu Gln Thr Gly His Ser Phe Ser Ala Asp Ile Trp Ser Val Gly
 275 280 285

Cys Thr Ile Ile Glu Met Ala Thr Gly Lys Pro Pro Trp Ser Gln Gln
 290 295 300

Tyr Gln Glu Val Ala Ala Leu Phe His Ile Gly Thr Thr Lys Ser His
 305 310 315 320

Pro Pro Ile Pro Glu His Leu Ser Ala Glu Ser Lys Asp Phe Leu Leu
 325 330 335

Lys Cys Leu Gln Lys Glu Pro His Leu Arg His Ser Ala Ser Asn Leu
 340 345 350

Leu Gln His Pro Phe Val Thr Ala Glu His Gln Glu Ala Arg Pro Phe
 355 360 365

Leu Arg Ser Ser Phe Met Gly Asn Pro Glu Asn Met Ala Ala Gln Arg
 370 375 380

Met Asp Val Arg Thr Ser Ile Ile Pro Asp Met Arg Ala Ser Cys Asn
 385 390 395 400

Gly Leu Lys Asp Val Cys Gly Val Ser Ala Val Arg Cys Ser Thr Val
 405 410 415

Tyr Pro Glu Asn Ser Leu Gly Lys Glu Ser Leu Trp Lys Leu Gly Asn
 420 425 430

Ser Asp Asp Asp Met Cys Gln Met Asp Asn Asp Asp Phe Met Phe Gly
 435 440 445

Ala Ser Val Lys Cys Ser Ser Asp Leu His Ser Pro Ala Asn Tyr Lys
 450 455 460

Ser Phe Asn Pro Met Cys Glu Pro Asp Asn Asp Trp Pro Cys Lys Phe
 465 470 475 480

Asp Glu Ser Pro Glu Leu Thr Lys Ser Gln Ala Asn Leu His Tyr Asp
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WALLACH21(INL2).ST25.txt

485

490

495

Gln Ala Thr Ile Lys Pro Thr Asn Asn Pro Ile Met Ser Tyr Lys Glu
 500 505 510

Asp Leu Ala Phe Thr Phe Pro Ser Gly Gln Ser Ala Ala Glu Asp Asp
 515 520 525

Asp Glu Leu Thr Glu Ser Lys Ile Arg Ala Phe Leu Asp Glu Lys Ala
 530 535 540

Met Asp Leu Lys Lys Leu Gln Thr Pro Leu Tyr Glu Gly Phe Tyr Asn
 545 550 555 560

Ser Leu Asn Val Ser Ser Thr Pro Ser Pro Val Gly Thr Gly Asn Lys
 565 570 575

Glu Asn Val Pro Ser Asn Ile Asn Leu Pro Pro Lys Ser Arg Ser Pro
 580 585 590

Lys Arg Met Leu Ser Arg Arg Leu Ser Thr Ala Ile Glu Gly Ala Cys
 595 600 605

Ala Pro Ser Pro Val Thr His Ser Lys Arg Ile Ser Asn Ile Gly Gly
 610 615 620

Leu Asn Gly Glu Ala Ile Gln Glu Ala Gln Leu Pro Arg His Asn Glu
 625 630 635 640

Trp Lys Asp Leu Leu Gly Ser Gln Arg Glu Ala Val Asn Ser Ser Phe
 645 650 655

Ser Glu Arg Gln Arg Arg Trp Lys Glu Glu Leu Asp Glu Glu Leu Gln
 660 665 670

Arg Lys Arg Glu Ile Met Arg Gln Ala Val Asn Leu Ser Pro Pro Lys
 675 680 685

<210> 16

<211> 659

<212> PRT

<213> Homo sapiens

<400> 16

Met Glu Tyr Tyr Thr Ser Lys Glu Val Ala Glu Trp Leu Lys Ser Ile
 1 5 10 15

Gly Leu Glu Lys Tyr Ile Glu Gln Phe Ser Gln Asn Asn Ile Glu Gly
 20 25 30

Arg His Leu Asn His Leu Thr Leu Pro Leu Leu Lys Asp Leu Gly Ile
 35 40 45

WALLACH21(INL2).ST25.txt

Glu Asn Thr Ala Lys Gly Lys Gln Phe Leu Lys Gln Arg Asp Tyr Leu
50 55 60

Arg Glu Phe Pro Arg Pro Cys Ile Leu Arg Phe Ile Ala Cys Asn Gly
65 70 75 80

Gln Thr Arg Ala Val Gln Ser Arg Gly Asp Tyr Gln Lys Thr Leu Ala
85 90 95

Ile Ala Leu Lys Lys Phe Ser Leu Glu Asp Ala Ser Lys Phe Ile Val
100 105 110

Cys Val Ser Gln Ser Ser Arg Ile Lys Leu Ile Thr Glu Glu Glu Phe
115 120 125

Lys Gln Ile Cys Phe Asn Ser Ser Pro Glu Arg Asp Arg Leu Ile
130 135 140

Ile Val Pro Lys Glu Lys Pro Cys Pro Ser Phe Glu Asp Leu Arg Arg
145 150 155 160

Ser Trp Glu Ile Glu Leu Ala Gln Pro Ala Ala Leu Ser Ser Gln Ser
165 170 175

Ser Leu Ser Pro Lys Leu Ser Ser Val Leu Pro Thr Ser Thr Gln Lys
180 185 190

Arg Ser Val Arg Ser Asn Asn Ala Lys Pro Phe Glu Ser Tyr Gln Arg
195 200 205

Pro Pro Ser Glu Leu Ile Asn Ser Arg Ile Ser Asp Phe Phe Pro Asp
210 215 220

His Gln Pro Lys Leu Leu Glu Lys Thr Ile Ser Asn Ser Leu Arg Arg
225 230 235 240

Asn Leu Ser Ile Arg Thr Ser Gln Gly His Asn Leu Gly Asn Phe Gly
245 250 255

Gln Glu Ile Leu Pro Arg Ser Ser Arg Arg Ala Arg Pro Ser Glu Leu
260 265 270

Val Cys Pro Leu Ser Ser Leu Arg Ile Ser Val Ala Glu Asp Val Asn
275 280 285

Arg Leu Pro Arg Ile Asp Arg Gly Phe Asp Pro Pro Leu Thr Val Ser
290 295 300

Ser Thr Gln Arg Ile Ser Arg Pro Pro Ser Leu Gln Lys Ser Ile Thr
305 310 315 320

WALLACH21(INL2).ST25.txt

Met Val Gly Val Glu Pro Leu Tyr Gln Ser Asn Gly Asn Glu Lys Ser
325 330 335

Ser Lys Tyr Asn Val Phe Ser Glu Ser Ala His Gly Asn His Gln Val
340 345 350

Leu Ser Phe Ser Pro Gly Ser Ser Pro Ser Phe Ile Glu Gln Pro Ser
355 360 365

Pro Ile Ser Pro Thr Ser Thr Ser Glu Asp Thr Asn Thr Leu Glu
370 375 380

Glu Asp Thr Asp Asp Gln Ser Ile Lys Trp Ile Arg Gly Ala Leu Ile
385 390 395 400

Gly Ser Gly Ser Phe Gly Gln Val Tyr Leu Gly Met Asn Ala Ser Ser
405 410 415

Gly Glu Leu Met Ala Val Lys Gln Val Ile Leu Asp Ser Val Ser Glu
420 425 430

Ser Lys Asp Arg His Ala Lys Leu Leu Asp Ala Leu Ala Gly Glu Ile
435 440 445

Ala Leu Leu Gln Glu Leu Ser His Glu His Ile Val Gln Tyr Leu Gly
450 455 460

Ser Asn Leu Asn Ser Asp His Leu Asn Ile Phe Leu Glu Tyr Val Pro
465 470 475 480

Gly Gly Ser Val Ala Gly Leu Leu Thr Met Tyr Gly Ser Phe Glu Glu
485 490 495

Thr Leu Val Lys Asn Phe Ile Lys Gln Thr Leu Lys Gly Leu Glu Tyr
500 505 510

Leu His Ser Arg Gly Ile Val His Arg Asp Ile Lys Gly Ala Asn Ile
515 520 525

Leu Val Asp Asn Lys Gly Lys Ile Lys Ile Ser Asp Phe Gly Ile Ser
530 535 540

Lys Lys Leu Glu Leu Asn Ser Thr Ser Thr Lys Thr Gly Gly Ala Arg
545 550 555 560

Pro Ser Phe Gln Gly Ser Ser Phe Trp Met Ala Pro Glu Val Val Lys
565 570 575

Gln Thr Met His Thr Glu Lys Thr Asp Ile Trp Ser Leu Gly Cys Leu
580 585 590

WALLACH21(INL2).ST25.txt

Val Ile Glu Met Leu Thr Ser Lys His Pro Tyr Pro Asn Cys Asp Gln
595 600 605

Met Gln Ala Ile Phe Arg Ile Gly Glu Asn Ile Leu Pro Glu Phe Pro
610 615 620

Ser Asn Ile Ser Ser Ser Ala Ile Asp Phe Leu Glu Lys Thr Phe Ala
625 630 635 640

Ile Asp Cys Asn Leu Arg Pro Thr Ala Ser Glu Leu Leu Ser His Pro
645 650 655

Phe Val Ser

<210> 17
<211> 717
<212> PRT
<213> Homo sapiens

<400> 17

Met Glu Gln Thr Gln Thr Ala Glu Gly Thr Asp Leu Leu Ile Gly Asp
1 5 10 15

Glu Lys Thr Asn Asp Leu Pro Phe Val Gln Leu Phe Leu Glu Glu Ile
20 25 30

Gly Cys Thr Gln Tyr Leu Asp Ser Phe Ile Gln Cys Asn Leu Val Thr
35 40 45

Glu Glu Glu Ile Lys Tyr Leu Asp Lys Asp Ile Leu Ile Ala Leu Gly
50 55 60

Val Asn Lys Ile Gly Asp Arg Leu Lys Ile Leu Arg Lys Ser Lys Ser
65 70 75 80

Phe Gln Arg Asp Lys Arg Ile Glu Gln Val Asn Arg Leu Lys Asn Leu
85 90 95

Met Glu Lys Val Ser Ser Leu Ser Thr Ala Thr Leu Ser Met Asn Ser
100 105 110

Glu Leu Ile Pro Glu Lys His Cys Val Ile Phe Ile Leu Asn Asp Gly
115 120 125

Ser Ala Lys Lys Val Asn Val Asn Gly Cys Phe Asn Ala Asp Ser Ile
130 135 140

Lys Lys Arg Leu Ile Arg Arg Leu Pro His Glu Leu Leu Ala Thr Asn
145 150 155 160

WALLACH21(INL2).ST25.txt

Ser Asn Gly Glu Val Thr Lys Met Val Gln Asp Tyr Asp Val Phe Val
165 170 175

Leu Asp Tyr Thr Lys Asn Val Leu His Leu Leu Tyr Asp Val Glu Leu
180 185 190

Val Thr Ile Cys His Ala Asn Asp Arg Val Glu Lys Asn Arg Leu Ile
195 200 205

Phe Val Ser Lys Asp Gln Thr Pro Ser Asp Lys Ala Ile Ser Thr Ser
210 215 220

Lys Lys Leu Tyr Leu Arg Thr Leu Ser Ala Leu Ser Gln Val Gly Pro
225 230 235 240

Ser Ser Ser Asn Leu Leu Ala Gln Asn Lys Gly Ile Ser His Asn Asn
245 250 255

Ala Glu Gly Lys Leu Arg Ile Asp Asn Thr Glu Lys Asp Arg Ile Arg
260 265 270

Gln Ile Phe Asn Gln Arg Pro Pro Ser Glu Phe Ile Ser Thr Asn Leu
275 280 285

Ala Gly Tyr Phe Pro His Thr Asp Met Lys Arg Leu Gln Lys Thr Met
290 295 300

Arg Glu Ser Phe Arg His Ser Ala Arg Leu Ser Ile Ala Gln Arg Arg
305 310 315 320

Pro Leu Ser Ala Glu Ser Asn Asn Ile Gly Asp Ile Leu Leu Lys His
325 330 335

Ser Asn Ala Val Asp Met Ala Leu Leu Gln Gly Leu Asp Gln Thr Arg
340 345 350

Leu Ser Ser Lys Leu Asp Thr Thr Lys Ile Pro Lys Leu Ala His Lys
355 360 365

Arg Pro Glu Asp Asn Asp Ala Ile Ser Asn Gln Leu Glu Leu Leu Ser
370 375 380

Val Glu Ser Gly Glu Glu Glu Asp His Asp Phe Phe Gly Glu Asp Ser
385 390 395 400

Asp Ile Val Ser Leu Pro Thr Lys Ile Ala Thr Pro Lys Asn Trp Leu
405 410 415

Lys Gly Ala Cys Ile Gly Ser Gly Ser Phe Gly Ser Val Tyr Leu Gly
420 425 430

WALLACH21(INL2).ST25.txt

Met Asn Ala His Thr Gly Glu Leu Met Ala Val Lys Gln Val Glu Ile
435 440 445

Lys Asn Asn Asn Ile Gly Val Pro Thr Asp Asn Asn Lys Gln Ala Asn
450 455 460

Ser Asp Glu Asn Asn Glu Gln Glu Glu Gln Gln Glu Lys Ile Glu Asp
465 470 475 480

Val Gly Ala Val Ser His Pro Lys Thr Asn Gln Asn Ile His Arg Lys
485 490 495

Met Val Asp Ala Leu Gln His Glu Met Asn Leu Leu Lys Glu Leu His
500 505 510

His Glu Asn Ile Val Thr Tyr Tyr Gly Ala Ser Gln Glu Gly Gly Asn
515 520 525

Leu Asn Ile Phe Leu Glu Tyr Val Pro Gly Gly Ser Val Ser Ser Met
530 535 540

Leu Asn Asn Tyr Gly Pro Phe Glu Glu Ser Leu Ile Thr Asn Phe Thr
545 550 555 560

Arg Gln Ile Leu Ile Gly Val Ala Tyr Leu His Lys Lys Asn Ile Ile
565 570 575

His Arg Asp Ile Lys Gly Ala Asn Ile Leu Ile Asp Ile Lys Gly Cys
580 585 590

Val Lys Ile Thr Asp Phe Gly Ile Ser Lys Lys Leu Ser Pro Leu Asn
595 600 605

Lys Lys Gln Asn Lys Arg Ala Ser Leu Gln Gly Ser Val Phe Trp Met
610 615 620

Ser Pro Glu Val Val Lys Gln Thr Ala Thr Thr Ala Lys Ala Asp Ile
625 630 635 640

Trp Ser Thr Gly Cys Val Val Ile Glu Met Phe Thr Gly Lys His Pro
645 650 655

Phe Pro Asp Phe Ser Gln Met Gln Ala Ile Phe Lys Ile Gly Thr Asn
660 665 670

Thr Thr Pro Glu Ile Pro Ser Trp Ala Thr Ser Glu Gly Lys Asn Phe
675 680 685

Leu Arg Lys Ala Phe Glu Leu Asp Tyr Gln Tyr Arg Pro Ser Ala Leu
690 695 700

WALLACH21(INL2).ST25.txt

Glu Leu Leu Gln His Pro Trp Leu Asp Ala His Ile Ile
705 710 715

<210> 18

<211> 1478

<212> PRT

<213> Homo sapiens

<400> 18

Met Pro Phe Leu Arg Lys Ile Ala Gly Thr Ala His Thr His Ser Arg
1 5 10 15

Ser Asp Ser Asn Ser Ser Val Lys Phe Gly His Gln Pro Thr Ser Ser
20 25 30

Val Ala Ser Thr Lys Ser Ser Ser Lys Ser Pro Arg Ala Thr Ser Arg
35 40 45

Lys Ser Ile Tyr Asp Asp Ile Arg Ser Gln Phe Pro Asn Leu Thr Pro
50 55 60

Asn Ser Thr Ser Ser Gln Phe Tyr Glu Ser Thr Pro Val Ile Glu Gln
65 70 75 80

Ser Phe Asn Trp Thr Thr Asp Asp His Ile Ser Ala Gly Thr Leu Glu
85 90 95

Asn Pro Thr Ser Glu Thr Asn Ser Ser Tyr Lys Asn Asp Asn Gly Pro
100 105 110

Ser Ser Leu Ser Asp Ser Arg Lys Ser Ser Gly Gly Asn Ser Val Asn
115 120 125

Ser Leu Ser Phe Asp Lys Leu Ile Leu Ser Trp Asp Pro Thr Asp Pro
130 135 140

Asp Glu Trp Thr Met His Arg Val Thr Ser Trp Phe Lys Phe His Asp
145 150 155 160

Phe Pro Glu Ser Trp Ile Leu Phe Phe Lys Lys His Gln Leu Phe Gly
165 170 175

His Arg Phe Ile Lys Leu Leu Ala Tyr Asp Asn Phe Ala Val Tyr Glu
180 185 190

Lys Tyr Leu Pro Gln Thr Lys Thr Ala Ser Tyr Thr Arg Phe Gln Gln
195 200 205

Leu Leu Lys Lys Thr Met Thr Lys Asn Val Thr Asn Ser His Ile Arg
210 215 220

WALLACH21(INL2).ST25.txt

Gln Lys Ser Ala Ser Lys Leu Lys Ser Ser Arg Ser Ser Ser Glu Ser
 225 230 235 240

Ile Lys Ser Lys Leu Lys Asn Ser Lys Ser Gln Glu Asp Ile Ser Asn
 245 250 255

Ser Arg Ser Thr Ser Glu Ser Ala Leu Ser Pro Thr Lys Ser Gly Pro
 260 265 270

Ser Lys Thr Asp Glu Lys Asn Phe Leu His Ser Thr Ser Thr His Gln
 275 280 285

Lys Thr Lys Ser Ala Ser Ser Leu Tyr Arg Arg Ser Phe Ile Ser Leu
 290 295 300

Arg Gly Ser Ser Ser Ser Asn Ala Ser Ser Ala Lys Ser Pro Ser Asn
 305 310 315 320

Ile Lys Leu Ser Ile Pro Ala Arg Pro His Ser Ile Ile Glu Ser Asn
 325 330 335

Ser Thr Leu Thr Lys Ser Ala Ser Pro Pro Ala Ser Pro Ser Tyr Pro
 340 345 350

Ser Ile Phe Arg Arg His His Lys Ser Ser Ser Ser Glu Ser Ser Leu
 355 360 365

Ile Asn Ser Leu Phe Gly Ser Gly Ile Gly Glu Glu Ala Pro Thr Lys
 370 375 380

Pro Asn Pro Gln Gly His Ser Leu Ser Ser Glu Asn Leu Ala Lys Gly
 385 390 395 400

Lys Ser Lys His Tyr Glu Thr Asn Val Ser Ser Pro Leu Lys Gln Ser
 405 410 415

Ser Leu Pro Thr Ser Asp Asp Lys Gly Asn Leu Trp Asn Lys Phe Lys
 420 425 430

Arg Lys Ser Gln Ile Gly Val Pro Ser Pro Asn Thr Val Ala Tyr Val
 435 440 445

Thr Ser Gln Glu Thr Pro Ser Leu Lys Ser Asn Ser Ser Thr Ala Thr
 450 455 460

Leu Thr Val Gln Thr Ala Asp Val Asn Ile Pro Ser Pro Ser Ser Ser
 465 470 475 480

Pro Pro Pro Ile Pro Lys Thr Ala Asn Arg Ser Leu Glu Val Ile Ser
 485 490 495

WALLACH21(INL2).ST25.txt

Thr Glu Asp Thr Pro Lys Ile Ser Ser Thr Thr Ala Ser Phe Lys Glu
500 505 510

Thr Tyr Pro Asp Cys Ile Asn Pro Asp Lys Thr Val Pro Val Pro Val
515 520 525

Asn Asn Gln Lys Tyr Ser Val Lys Asn Phe Leu Leu Asp Gln Lys Phe
530 535 540

Tyr Pro Leu Lys Lys Thr Gly Leu Asn Asp Ser Glu Asn Lys Tyr Ile
545 550 555 560

Leu Val Thr Lys Asp Asn Val Ser Phe Val Pro Leu Asn Leu Lys Ser
565 570 575

Val Ala Lys Leu Ser Ser Phe Lys Glu Ser Ala Leu Thr Lys Leu Gly
580 585 590

Ile Asn His Lys Asn Val Thr Phe His Met Thr Asp Phe Asp Cys Asp
595 600 605

Ile Gly Ala Ala Ile Pro Asp Asp Thr Leu Glu Phe Leu Lys Lys Ser
610 615 620

Leu Phe Leu Asn Thr Ser Gly Lys Ile Tyr Ile Lys Asp Gln Met Lys
625 630 635 640

Leu Gln Gln Lys Pro Lys Pro Ala Pro Leu Thr Ser Glu Asn Asn Val
645 650 655

Pro Leu Lys Ser Val Lys Ser Lys Ser Met Arg Ser Gly Thr Ser
660 665 670

Ser Leu Ile Ala Ser Thr Asp Asp Val Ser Ile Val Thr Ser Ser Ser
675 680 685

Asp Ile Thr Ser Phe Asp Glu His Ala Ser Gly Ser Gly Arg Arg Tyr
690 695 700

Pro Gln Thr Pro Ser Tyr Tyr Tyr Asp Arg Val Ser Asn Thr Asn Pro
705 710 715 720

Thr Glu Glu Leu Asn Tyr Trp Asn Ile Lys Glu Val Leu Ser His Glu
725 730 735

Glu Asn Ala Pro Lys Met Val Phe Lys Thr Ser Pro Lys Leu Glu Leu
740 745 750

Asn Ile Pro Asp Lys Gly Ser Lys Leu Asn Ile Pro Thr Pro Ile Thr
755 760 765

WALLACH21(INL2).ST25.txt

Glu Asn Glu Ser Lys Ser Ser Phe Gln Val Leu Arg Lys Asp Glu Gly
 770 775 780

Thr Glu Ile Asp Phe Asn His Arg Arg Glu Ser Pro Tyr Thr Lys Pro
 785 790 795 800

Glu Leu Ala Pro Lys Arg Glu Ala Pro Lys Pro Pro Ala Asn Thr Ser
 805 810 815

Pro Gln Arg Thr Leu Ser Thr Ser Lys Gln Asn Lys Pro Ile Arg Leu
 820 825 830

Val Arg Ala Ser Thr Lys Ile Ser Arg Ser Lys Arg Ser Lys Pro Leu
 835 840 845

Pro Pro Gln Leu Leu Ser Ser Pro Ile Glu Ala Ser Ser Ser Ser Pro
 850 855 860

Asp Ser Leu Thr Ser Ser Tyr Thr Pro Ala Ser Thr His Val Leu Ile
 865 870 875 880

Pro Gln Pro Tyr Lys Gly Ala Asn Asp Val Met Arg Arg Leu Lys Thr
 885 890 895

Asp Gln Asp Ser Thr Ser Thr Ser Pro Ser Leu Lys Met Lys Gln Lys
 900 905 910

Val Asn Arg Ser Asn Ser Thr Val Ser Thr Ser Asn Ser Ile Phe Tyr
 915 920 925

Ser Pro Ser Pro Leu Leu Lys Arg Gly Asn Ser Lys Arg Val Val Ser
 930 935 940

Ser Thr Ser Ala Ala Asp Ile Phe Glu Glu Asn Asp Ile Thr Phe Ala
 945 950 955 960

Asp Ala Pro Pro Met Phe Asp Ser Asp Asp Ser Asp Asp Asp Ser Ser
 965 970 975

Ser Ser Asp Asp Ile Ile Trp Ser Lys Lys Lys Thr Ala Pro Glu Thr
 980 985 990

Asn Asn Glu Asn Lys Lys Asp Glu Lys Ser Asp Asn Ser Ser Thr His
 995 1000 1005

Ser Asp Glu Ile Phe Tyr Asp Ser Gln Thr Gln Asp Lys Met Glu
 1010 1015 1020

Arg Lys Met Thr Phe Arg Pro Ser Pro Glu Val Val Tyr Gln Asn
 1025 1030 1035

WALLACH21(INL2).ST25.txt

Leu Glu Lys Phe Phe Pro Arg Ala Asn Leu Asp Lys Pro Ile Thr
 1040 1045 1050

Glu Gly Ile Ala Ser Pro Thr Ser Pro Lys Ser Leu Asp Ser Leu
 1055 1060 1065

Leu Ser Pro Lys Asn Val Ala Ser Ser Arg Thr Glu Pro Ser Thr
 1070 1075 1080

Pro Ser Arg Pro Val Pro Pro Asp Ser Ser Tyr Glu Phe Ile Gln
 1085 1090 1095

Asp Gly Leu Asn Gly Lys Asn Lys Pro Leu Asn Gln Ala Lys Thr
 1100 1105 1110

Pro Lys Arg Thr Lys Thr Ile Arg Thr Ile Ala His Glu Ala Ser
 1115 1120 1125

Leu Ala Arg Lys Asn Ser Val Lys Leu Lys Arg Gln Asn Thr Lys
 1130 1135 1140

Met Trp Gly Thr Arg Met Val Glu Val Thr Glu Asn His Met Val
 1145 1150 1155

Ser Ile Asn Lys Ala Lys Asn Ser Lys Gly Glu Tyr Lys Glu Phe
 1160 1165 1170

Ala Trp Met Lys Gly Glu Met Ile Gly Lys Gly Ser Phe Gly Ala
 1175 1180 1185

Val Tyr Leu Cys Leu Asn Val Thr Thr Gly Glu Met Met Ala Val
 1190 1195 1200

Lys Gln Val Glu Val Pro Lys Tyr Ser Ser Gln Asn Glu Ala Ile
 1205 1210 1215

Leu Ser Thr Val Glu Ala Leu Arg Ser Glu Val Ser Thr Leu Lys
 1220 1225 1230

Asp Leu Asp His Leu Asn Ile Val Gln Tyr Leu Gly Phe Glu Asn
 1235 1240 1245

Lys Asn Asn Ile Tyr Ser Leu Phe Leu Glu Tyr Val Ala Gly Gly
 1250 1255 1260

Ser Val Gly Ser Leu Ile Arg Met Tyr Gly Arg Phe Asp Glu Pro
 1265 1270 1275

Leu Ile Lys His Leu Thr Thr Gln Val Leu Lys Gly Leu Ala Tyr
 1280 1285 1290

WALLACH21(INL2).ST25.txt

Leu His Ser Lys Gly Ile Leu His Arg Asp Met Lys Ala Asp Asn
 1295 1300 1305

Leu Leu Leu Asp Gln Asp Gly Ile Cys Lys Ile Ser Asp Phe Gly
 1310 1315 1320

Ile Ser Arg Lys Ser Lys Asp Ile Tyr Ser Asn Ser Asp Met Thr
 1325 1330 1335

Met Arg Gly Thr Val Phe Trp Met Ala Pro Glu Met Val Asp Thr
 1340 1345 1350

Lys Gln Gly Tyr Ser Ala Lys Val Asp Ile Trp Ser Leu Gly Cys
 1355 1360 1365

Ile Val Leu Glu Met Phe Ala Gly Lys Arg Pro Trp Ser Asn Leu
 1370 1375 1380

Glu Val Val Ala Ala Met Phe Lys Ile Gly Lys Ser Lys Ser Ala
 1385 1390 1395

Pro Pro Ile Pro Glu Asp Thr Leu Pro Leu Ile Ser Gln Ile Gly
 1400 1405 1410

Arg Asn Phe Leu Asp Ala Cys Phe Glu Ile Asn Pro Glu Lys Arg
 1415 1420 1425

Pro Thr Ala Asn Glu Leu Leu Ser His Pro Phe Ser Glu Val Asn
 1430 1435 1440

Glu Thr Phe Asn Phe Lys Ser Thr Arg Leu Ala Lys Phe Ile Lys
 1445 1450 1455

Ser Asn Asp Lys Leu Asn Ser Ser Lys Leu Arg Ile Thr Ser Gln
 1460 1465 1470

Glu Asn Lys Thr Glu
 1475

<210> 19
 <211> 672
 <212> PRT
 <213> Mus sp.

<400> 19

Met Val Thr Ala Val Pro Ala Val Phe Ser Lys Leu Val Thr Met Leu
 1 5 10 15

Asn Ala Ser Gly Ser Thr His Phe Thr Arg Met Arg Arg Arg Leu Met
 20 25 30

Ala Ile Ala Asp Glu Val Glu Ile Ala Glu Val Ile Gln Leu Gly Val
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WALLACH21(INL2).ST25.txt
35 40 45

Glu Asp Thr Val Asp Gly His Gln Asp Ser Leu Gln Ala Val Ala Pro
50 55 60

Thr Ser Cys Leu Glu Asn Ser Ser Leu Glu His Thr Val His Arg Glu
65 70 75 80

Lys Thr Gly Lys Gly Leu Ser Ala Thr Arg Leu Ser Ala Ser Ser Glu
85 90 95

Asp Ile Ser Asp Arg Leu Ala Gly Val Ser Val Gly Leu Pro Ser Ser
100 105 110

Thr Thr Thr Glu Gln Pro Lys Pro Ala Val Gln Thr Lys Gly Arg Pro
115 120 125

His Ser Gln Cys Leu Asn Ser Ser Pro Leu Ser His Ala Gln Leu Met
130 135 140

Phe Pro Ala Pro Ser Ala Pro Cys Ser Ser Ala Pro Ser Val Pro Asp
145 150 155 160

Ile Ser Lys His Arg Pro Gln Ala Phe Val Pro Cys Lys Ile Pro Ser
165 170 175

Ala Ser Pro Gln Thr Gln Arg Lys Phe Ser Leu Gln Phe Gln Arg Asn
180 185 190

Cys Ser Glu His Arg Asp Ser Asp Gln Leu Ser Pro Val Phe Thr Gln
195 200 205

Ser Arg Pro Pro Pro Ser Ser Asn Ile His Arg Pro Lys Pro Ser Arg
210 215 220

Pro Val Pro Gly Ser Thr Ser Lys Leu Gly Asp Ala Thr Lys Ser Ser
225 230 235 240

Met Thr Leu Asp Leu Gly Ser Ala Ser Arg Cys Asp Asp Ser Phe Gly
245 250 255

Gly Gly Gly Asn Ser Gly Asn Ala Val Ile Pro Ser Asp Glu Thr Val
260 265 270

Phe Thr Pro Val Glu Asp Lys Cys Arg Leu Asp Val Asn Thr Glu Leu
275 280 285

Asn Ser Ser Ile Glu Asp Leu Leu Glu Ala Ser Met Pro Ser Ser Asp
290 295 300

Thr Thr Val Thr Phe Lys Ser Glu Val Ala Val Leu Ser Pro Glu Lys
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WALLACH21(INL2).ST25.txt

305	310	315	320
Ala Glu Asn Asp Asp Thr Tyr Lys Asp Asp Val Asn His Asn Gln Lys 325 330 335			
Cys Lys Glu Lys Met Glu Ala Glu Glu Glu Ala Leu Ala Ile Ala 340 345 350			
Met Ala Met Ser Ala Ser Gln Asp Ala Leu Pro Ile Val Pro Gln Leu 355 360 365			
Gln Val Glu Asn Gly Glu Asp Ile Ile Ile Gln Gln Asp Thr Pro 370 375 380			
Glu Thr Leu Pro Gly His Thr Lys Ala Lys Gln Pro Tyr Arg Glu Asp 385 390 395 400			
Ala Glu Trp Leu Lys Gly Gln Ile Gly Leu Gly Ala Phe Ser Ser 405 410 415			
Cys Tyr Gln Ala Gln Asp Val Gly Thr Gly Thr Leu Met Ala Val Lys 420 425 430			
Gln Val Thr Tyr Val Arg Asn Thr Ser Ser Glu Gln Glu Glu Val Val 435 440 445			
Glu Ala Leu Arg Glu Glu Ile Arg Met Met Gly His Leu Asn His Pro 450 455 460			
Asn Ile Ile Arg Met Leu Gly Ala Thr Cys Glu Lys Ser Asn Tyr Asn 465 470 475 480			
Leu Phe Ile Glu Trp Met Ala Gly Gly Ser Val Ala His Leu Leu Ser 485 490 495			
Lys Tyr Gly Ala Phe Lys Glu Ser Val Val Ile Asn Tyr Thr Glu Gln 500 505 510			
Leu Leu Arg Gly Leu Ser Tyr Leu His Glu Asn Gln Ile Ile His Arg 515 520 525			
Asp Val Lys Gly Ala Asn Leu Leu Ile Asp Ser Thr Gly Gln Arg Leu 530 535 540			
Arg Ile Ala Asp Phe Gly Ala Ala Ala Arg Leu Ala Ser Lys Gly Thr 545 550 555 560			
Gly Ala Gly Glu Phe Gln Gly Gln Leu Leu Gly Thr Ile Ala Phe Met 565 570 575			
Ala Pro Glu Val Leu Arg Gly Gln Gln Tyr Gly Arg Ser Cys Asp Val Page 45			

580

WALLACH21(INL2).ST25.txt
585 590

Trp Ser Val Gly Cys Ala Ile Ile Glu Met Ala Cys Ala Lys Pro Pro
595 600 605

Trp Asn Ala Glu Lys His Ser Asn His Leu Ala Leu Ile Phe Lys Ile
610 615 620

Ala Ser Ala Thr Thr Ala Pro Ser Ile Pro Ser His Leu Ser Pro Gly
625 630 635 640

Leu Arg Asp Val Ala Val Arg Cys Leu Glu Leu Gln Pro Gln Asp Arg
645 650 655

Pro Pro Ser Arg Glu Leu Leu Lys His Pro Val Phe Arg Thr Thr Trp
660 665 670

<210> 20

<211> 1314

<212> PRT

<213> Homo sapiens

<400> 20

Met Met Met Asp Ile Leu Asn Thr Gln Gln Gln Lys Ala Ala Glu Gly
1 5 10 15

Gly Arg Val Leu Ala Pro His Thr Ile Ser Ser Lys Leu Val Lys Arg
20 25 30

Leu Ser Ser His Ser Ser His Lys Leu Ser Arg Ser Asp Leu Lys Ala
35 40 45

Leu Gly Gly Ser Glu Thr Ile Ser Asp Gly Pro Ser Gln Leu Thr Phe
50 55 60

Lys Asp Arg Tyr Val Phe Asn Glu Ser Leu Tyr Leu Lys Lys Leu Lys
65 70 75 80

Lys Thr Ala Leu Asp Asp Tyr Tyr Thr Arg Gly Ile Lys Leu Thr Asn
85 90 95

Arg Tyr Glu Glu Asp Asp Gly Asp Asp Glu Ile Ile Arg Leu Ser Asn
100 105 110

Gly Asp Arg Ile Asp Glu Asp Leu His Ser Gly Val Lys Phe Phe Ser
115 120 125

Thr Thr Pro Tyr Cys Arg Lys Met Arg Ser Asp Ser Asp Glu Leu Ala
130 135 140

Trp Asn Glu Ile Ala Thr Glu Arg Phe Lys Trp Gln Ser Met Leu Ala
145 150 155 160

WALLACH21(INL2).ST25.txt

Arg Val Leu Lys Gly Asp Ile Val Lys Gly Glu Lys Thr Arg Ile Ala
165 170 175

Asn Gln Val Lys Lys Pro Gly Leu Asn Lys Glu Leu Ser Asp Glu Ile
180 185 190

Trp Leu Glu Leu Lys Ala Trp Leu Asn Gly Arg Thr Met Gln Glu Met
195 200 205

Glu Gln Ser Leu Thr Tyr Leu Arg Asp Ser Ser Asp Ser Val Phe Glu
210 215 220

Glu Ile Met Lys Phe Gln Ile Pro Gln Gly Lys Ile Leu Ser Leu Asp
225 230 235 240

Ala Leu Glu Ala Ile Leu Gln Asp Leu Met Asn Arg Tyr His Ser Val
245 250 255

Val Ser Tyr Trp Pro Asn Leu Lys Lys Met Tyr Lys Asp Lys Pro Ile
260 265 270

Thr Asn Thr Ala Glu Phe Thr Ala Arg Ile Asp Val Met Asn Ser Trp
275 280 285

Leu Asn Phe Lys Thr Asn Leu Thr Leu Arg Arg Gln Glu Leu Asp Asp
290 295 300

Trp Ile Asn Arg Phe Ser Pro Ile Ser Ser Ser Asp Asn Cys Gln Glu
305 310 315 320

Asp Phe Asp Gly Val Pro Gln Trp Asn Cys Lys Met Lys Ile Leu Ala
325 330 335

Glu Gln Leu Met Lys Glu Lys Asn Ile Glu Ser Ile Phe Gln Lys Lys
340 345 350

Ile Phe Tyr Pro Leu Ser Pro Trp Met Phe Lys Leu Lys Leu His Phe
355 360 365

Ile Val Tyr Arg Glu Thr Leu Thr Lys Met Asn Ile Lys Tyr Pro Tyr
370 375 380

Glu Arg Leu Arg Ser Leu Leu Ala Phe Pro Val Tyr Leu Ile Lys Glu
385 390 395 400

Val Ile Leu Thr Arg Leu Ser Tyr Ala Arg Lys Leu Lys Asn Pro Thr
405 410 415

Met Met Met Ile Asp Gln Met Ile Asp Asp Phe Asn Ala Phe Ile Arg
420 425 430

WALLACH21(INL2).ST25.txt

Leu Ser Val Gln Leu Lys Tyr Thr Leu Thr Lys Tyr Cys Ser Asn Leu
435 440 445

Pro Phe Asp Val Asp Phe Asp Pro Thr Phe Glu Asn Thr Val Ile Glu
450 455 460

Ala Ile Arg Tyr Leu Phe Phe Leu Leu Asn Leu Lys Leu Ile Asp Ser
465 470 475 480

Ser Lys Gln Asn Phe Lys Ala Pro Asp Leu Leu Leu Lys Tyr Trp Asp
485 490 495

His Leu Lys Asn Thr Gly His Tyr Ile Asn Gly Ala Glu Thr Val Ile
500 505 510

Pro Asn Glu Phe Leu Lys Leu Thr Leu Arg Leu Val His Lys Leu Gln
515 520 525

Phe Tyr Leu Leu Lys Gln Gln Asn Phe Pro Pro Thr Phe Ala Asn Ala
530 535 540 560

Ser Glu Ala Glu Lys Trp Leu Ser Ser Ile Phe Glu Asn Leu Gly Ala
545 550 555 560

Met Lys Arg Lys Leu Asn Arg Phe Ser Asn Ile Leu Val Lys Ala Phe
565 570 575

Gln Asn Ser Ala Val Tyr Gln Ile Asn His Asn Ala Gln Leu Val Lys
580 585 590

Lys Leu Lys Asp Ala His Tyr Phe Leu Val Tyr Ser Gly Asn Thr Phe
595 600 605

Glu Ser Ser Gly Val Tyr Met Phe Ala Ala Pro Glu Leu Leu Gly Cys
610 615 620

Asp Asn Asp Thr Ile Leu Arg Ile Leu Arg Asn Lys Ser Ile Gly Cys
625 630 635 640

Asp Leu Val Pro Lys Leu Asp Ile Gly Asn Asn Leu Asn Val Tyr Asp
645 650 655

Ile Thr Thr Lys Glu Thr Asp Leu Asn Ile Leu Val Ser Lys Gly Glu
660 665 670

Asp Ser Lys Gly Ile Pro Tyr Tyr Arg Val Val Ala Asn Ser Ser Ser
675 680 685

Asp Leu Asp Arg His Ala His Gln Ser Lys Lys Lys Asn Phe Ser Thr
690 695 700

WALLACH21(INL2).ST25.txt

Asp Pro Phe Asp Gln His Leu Asp Glu Lys Asn Asn Glu Val Phe Glu
705 710 715 720

Leu Glu Val Ala Leu Ser Ser Leu Gly Ala Leu Val Val Leu Tyr Pro
725 730 735

Gly Glu Pro Val Val Trp Asp Gly Pro Val Tyr Lys Leu Pro Gly Asn
740 745 750

Asn Leu Phe Ala Ser Asn Glu Met Asp Leu Gly Lys Ile Gly Asn Pro
755 760 765

Asn Thr Leu Ile Leu Leu Asn Gln Gly Ser Asn Tyr Ala Leu Thr Tyr
770 775 780

Gln Ile Asp Lys Phe Asn Gln Thr Val Gly Asp Ser Val Ser Phe Ile
785 790 795 800

Glu Lys Arg Cys Ser Leu Asn Ser Ile Glu Ser Ser Leu Gln Lys Ile
805 810 815

Asn Lys Ala Tyr Tyr Lys Leu Thr Tyr Thr Val Leu Asn Asn Tyr Lys
820 825 830

Gly Ile Leu Gly Ser Phe Met Lys Gln Cys Pro Gly Asn Glu Leu Leu
835 840 845

Asn Ser Ile Phe Met Phe Gly Arg Asp Phe Gly Arg Ser Phe Leu Lys
850 855 860

Tyr Asn Ala Phe Ser Ser Lys Arg Lys Tyr Val Ile Ile Phe Leu Met
865 870 875 880

Val Lys Leu Gly Met Asn Trp Leu Lys Phe Leu Val Glu Glu Cys Asp
885 890 895

Pro Thr Asp Gln Arg Thr Phe Arg Trp Cys Val Leu Ala Met Asp Phe
900 905 910

Ala Met Gln Met Thr Ser Gly Tyr Asn Ile Leu Ala Leu Asn Val Lys
915 920 925

Gln Phe Gln Glu Leu Lys Glu Arg Val Ser Val Cys Met Ser Leu Leu
930 935 940

Ile Ser His Phe Asp Val Met Gly Ala Arg Ala Thr Glu Ala Glu Asn
945 950 955 960

Gly Met Gln Gln Ala Arg Leu Asn Ile Asp Thr Glu Glu Asn Ile Asp
965 970 975

WALLACH21(INL2).ST25.txt

Glu Glu Ala Thr Leu Glu Ile Asn Ser Arg Leu Arg Leu Glu Ala Ile
980 985 990

Lys Thr Leu Glu Lys Thr Met Lys Arg Asn Pro Arg Gln Met Gly Lys
995 1000 1005

Val Leu Asp Ala Thr Asp Gln Gly Asn Lys Tyr Leu Leu Ser Leu
1010 1015 1020

Ala Ser Ser Leu Ser Asn Val Ser Met Arg Trp Gln Lys Arg Ser
1025 1030 1035

Phe Ile Gly Gly Gly Thr Phe Gly Gln Val Tyr Ser Ala Ile Asn
1040 1045 1050

Leu Glu Asn Gly Glu Ile Leu Ala Val Lys Glu Ile Lys Ile His
1055 1060 1065

Asp Thr Thr Thr Met Lys Ile Phe Pro Leu Ile Lys Glu Glu
1070 1075 1080

Met Thr Val Leu Glu Met Leu Asn His Pro Asn Ile Val Gln Tyr
1085 1090 1095

Tyr Gly Val Glu Val His Arg Asp Lys Val Asn Ile Phe Met Glu
1100 1105 1110

Tyr Cys Glu Gly Gly Ser Leu Ala Ser Leu Leu Asp His Gly Arg
1115 1120 1125

Ile Glu Asp Glu Met Val Thr Gln Val Tyr Thr Phe Glu Leu Leu
1130 1135 1140

Glu Gly Leu Ala Tyr Leu His Gln Ser Gly Val Val His Arg Asp
1145 1150 1155

Ile Lys Pro Glu Asn Ile Leu Leu Asp Phe Asn Gly Ile Ile Lys
1160 1165 1170

Tyr Val Asp Phe Gly Thr Ala Arg Thr Val Val Gly Ser Arg Thr
1175 1180 1185

Arg Thr Val Arg Asn Ala Ala Val Gln Asp Phe Gly Val Glu Thr
1190 1195 1200

Lys Ser Leu Asn Glu Met Met Gly Thr Pro Met Tyr Met Ala Pro
1205 1210 1215

Glu Thr Ile Ser Gly Ser Ala Val Lys Gly Lys Leu Gly Ala Asp
1220 1225 1230

WALLACH21(INL2).ST25.txt

Asp Val Trp Ala Leu Gly Cys Val Val Leu Glu Met Ala Thr Gly
1235 1240 1245

Arg Arg Pro Trp Ser Asn Leu Asp Asn Glu Trp Ala Ile Met Tyr
1250 1255 1260

His Val Ala Ala Gly Arg Ile Pro Gln Leu Pro Asn Arg Asp Glu
1265 1270 1275

Met Thr Ala Ala Gly Arg Ala Leu Leu Gly Lys Val Phe Gly Ser
1280 1285 1290

Arg Pro His Tyr Glu Gly Tyr Cys Cys Gly Thr Thr Asp Arg Pro
1295 1300 1305

Leu Asp Asp Thr Asn Pro
1310

<210> 21

<211> 4

<212> PRT

<213> Artificial

<220>

<223> synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Residue at position 1 is modified by a N-terminal acetyl group.

<220>

<221> misc_feature

<222> (4)..(4)

<223> Residue at position 4 is modified by a C-terminal 4-methyl-coumaryl-7-amide group.

<400> 21

Asp Glu Val Asp
1

<210> 22

<211> 4

<212> PRT

<213> Artificial

<220>

<223> synthetic

<220>

<221> misc_feature

<222> (1)..(1)

<223> Residue at position 1 is modified by a N-terminal acetyl group.

<220>

<221> misc_feature

WALLACH21(INL2).ST25.txt

<222> (4), (4)
<223> Residue at position 1 is modified by a C-terminal
chloromethylketone group.

<400> 22

Tyr Val Ala Asp
1

<210> 23
<211> 501
<212> PRT
<213> Homo sapiens

<400> 23

Met Ala Ala Ala Ser Val Thr Pro Pro Gly Ser Leu Glu Leu Leu Gln
1 5 10 15

Pro Gly Phe Ser Lys Thr Leu Leu Gly Thr Lys Leu Glu Ala Lys Tyr
20 25 30

Leu Cys Ser Ala Cys Arg Asn Val Leu Arg Arg Pro Phe Gln Ala Gln
35 40 45

Cys Gly His Arg Tyr Cys Ser Phe Cys Leu Ala Ser Ile Leu Ser Ser
50 55 60

Gly Pro Gln Asn Cys Ala Ala Cys Val His Glu Gly Ile Tyr Glu Glu
65 70 75 80

Gly Ile Ser Ile Leu Glu Ser Ser Ala Phe Pro Asp Asn Ala Ala
85 90 95

Arg Arg Glu Val Glu Ser Leu Pro Ala Val Cys Pro Ser Asp Gly Cys
100 105 110

Thr Trp Lys Gly Thr Leu Lys Glu Tyr Glu Ser Cys His Glu Gly Arg
115 120 125

Cys Pro Leu Met Leu Thr Glu Cys Pro Ala Cys Lys Gly Leu Val Arg
130 135 140

Leu Gly Glu Lys Glu Arg His Leu Glu His Glu Cys Pro Glu Arg Ser
145 150 155 160

Leu Ser Cys Arg His Cys Arg Ala Pro Cys Cys Gly Ala Asp Val Lys
165 170 175

Ala His His Glu Val Cys Pro Lys Phe Pro Leu Thr Cys Asp Gly Cys
180 185 190

Gly Lys Lys Lys Ile Pro Arg Glu Lys Phe Gln Asp His Val Lys Thr
195 200 205

WALLACH21(INL2).ST25.txt

Cys Gly Lys Cys Arg Val Pro Cys Arg Phe His Ala Ile Gly Cys Leu
210 215 220

Glu Thr Val Glu Gly Glu Lys Gln Gln Glu His Glu Val Gln Trp Leu
225 230 235 240

Arg Glu His Leu Ala Met Leu Leu Ser Ser Val Leu Glu Ala Lys Pro
245 250 255

Leu Leu Gly Asp Gln Ser His Ala Gly Ser Glu Leu Leu Gln Arg Cys
260 265 270

Glu Ser Leu Glu Lys Lys Thr Ala Thr Phe Glu Asn Ile Val Cys Val
275 280 285

Leu Asn Arg Glu Val Glu Arg Val Ala Met Thr Ala Glu Ala Cys Ser
290 295 300

Arg Gln His Arg Leu Asp Gln Asp Lys Ile Glu Ala Leu Ser Ser Lys
305 310 315 320

Val Gln Gln Leu Glu Arg Ser Ile Gly Leu Lys Asp Leu Ala Met Ala
325 330 335

Asp Leu Glu Gln Lys Val Leu Glu Met Glu Ala Ser Thr Tyr Asp Gly
340 345 350

Val Phe Ile Trp Lys Ile Ser Asp Phe Ala Arg Lys Arg Gln Glu Ala
355 360 365

Val Ala Gly Arg Ile Pro Ala Ile Phe Ser Pro Ala Phe Tyr Thr Ser
370 375 380

Arg Tyr Gly Tyr Lys Met Cys Leu Arg Ile Tyr Leu Asn Gly Asp Gly
385 390 395 400

Thr Gly Arg Gly Thr His Leu Ser Leu Phe Phe Val Val Met Lys Gly
405 410 415

Pro Asn Asp Ala Leu Leu Arg Trp Pro Phe Asn Gln Lys Val Thr Leu
420 425 430

Met Leu Leu Asp Gln Asn Asn Arg Glu His Val Ile Asp Ala Phe Arg
435 440 445

Pro Asp Val Thr Ser Ser Phe Gln Arg Pro Val Asn Asp Met Asn
450 455 460

Ile Ala Ser Gly Cys Pro Leu Phe Cys Pro Val Ser Lys Met Glu Ala
465 470 475 480

WALLACH21(INL2).ST25.txt

Lys Asn Ser Tyr Val Arg Asp Asp Ala Ile Phe Ile Lys Ala Ile Val
485 490 495

Asp Leu Thr Gly Leu
500